

## CLAIMS

### WHAT IS CLAIMED IS:

- 1        1. A device comprising:
  - 2              a fiber optic bundle having a termination block;
  - 3              an array waveguide having channels internally, the array waveguide
  - 4              positioned adjacent to the termination block; and
  - 5              two pins each partially extending into both the termination block and the
  - 6              array waveguide.
- 1        2. The device of claim 1, wherein the termination block comprises two retainers  
2        having etched grooves in them, and the two pins extend into holes formed by placing  
3        the two etched substrates together.
- 1        3. The device of claim 2, wherein the array waveguide has two holes formed by  
2        an etch process.
- 1        4. The device of claim 2 further comprising  
2              a gel dispensed between the termination block and the array waveguide.
- 1        5. The device of claim 4, wherein the gel has an index of refraction substantially  
2        similar to that of the channels of the array waveguide.

1           6. A method of aligning a fiber optic bundle with an array waveguide comprising:  
2                 inserting pins into holes formed in both the fiber optic bundle and the array  
3                 waveguide; and  
4                 pressing the fiber optic bundle and the array waveguide together so that the  
5                 pins extend into both the fiber optic bundle and the array waveguide.

1           7. The method of claim 6 further comprising:  
2                 finely aligning optical fibers in the fiber optic bundle with channels of the  
3                 array waveguide.

1           8. The method of claim 7 further comprising:  
2                 applying an epoxy to bond the fiber optic bundle to the array waveguide.

1           9. The method of claim 8 further comprising:  
2                 dispensing an optical gel between the fiber optic bundle and the array  
3                 waveguide.

1           10. The method of claim 9, wherein the optical gel has an index of refraction  
2                 substantially similar to channels in the array waveguide.

1           11. The method of claim 10 further comprising:  
2                 curing the epoxy while maintaining alignment between the optical fibers and  
3                 the channels of the array waveguide.

1           12. A method of aligning a fiber optic bundle with an array waveguide  
2           comprising:  
3                 inserting two pins into holes formed in an end of the fiber optic bundle;  
4                 inserting opposite ends of the two pins into the array waveguide; and  
5                 pressing the fiber optic bundle and the array waveguide together.

1           13. The method of claim 12 further comprising:  
2                 adjusting the fiber optic bundle and the array waveguide to improve photonic  
3                 coupling between optical fibers of the fiber optic bundle and channels  
4                 of the array waveguide.

1           14. The method of claim 13 further comprising:  
2                 dispensing an epoxy between the fiber optic bundle and the array waveguide.

1           15. The method of claim 14, wherein the dispensing the epoxy is performed by  
2                 dispensing an epoxy having an index of refraction substantially similar to the channels  
3                 of the array waveguide.